



THE SCOPE OF GAMIFICATION IN PEDAGOGICAL CONTEXTS: AN OVERVIEW OF LITERATURE

Mohammad Yasir Naseem

Research Scholar
Department of English
Aligarh Muslim University
Aligarh, U.P 202002

ABSTRACT

The mode of pedagogy is an essential component that decides the outcomes of the learning program, so it necessitates to be modified appropriately according to the learning expectations. For better teaching and learning that will be accommodating in both the cases whether implemented in the short term or the long-term scenarios and also harmonises the learning expectations to the learning outcomes, gamification can be an efficient technique that meets all the requirements in this context. Various researches in distinct scenarios using various games and techniques have been done in this domain which confirms that gamification can be an efficient tool that promotes both teaching as well as learning. It investigates numerous relevant literature available on different databases which demonstrate the effectiveness of gamification as a tool for pedagogy. This article presents a methodical review of the literature on the usage of gamification in pedagogical contexts and also study the consequences of various researches and describing them systematically to provide the theoretical approach to the gamification module for pedagogy and gravelled the way for further researches in the field.

KEYWORDS: *gamification, gamified learning, games, pedagogy*

INTRODUCTION

We all are considerably accustomed to the term "Game" and its nature. In today's world where human civilization is heading towards technology, everything is now transforming into digital whether it is a game, or anything related to our day-to-day life. Even though we do not have any hoverboards or flying cars yet, as promised in old movies like Back to the Future, Star Trek, Pacific Rim etc but we still have lots of things to boast about. In the 21st-century human are proficient in doing various undesirable chore with the assistant of technological advancements like satellites and Internet technology. The introduction of the gamification module in the pedagogical context is one of the results of technological advancement. Gamification has accomplished extensive reputation in recent years among numerous learners and educators, as this pedagogical technique is immensely immersive, multimodal, and interactive for various environments. It heightens the experience of pedagogy as well as learning both in the classroom as well as in various real-life settings.

RESEARCH METHODOLOGY

The research that will be implemented in pedagogical scenarios concerning the employment of the gamification module is extremely exciting and necessitates a methodical literature review. All the studies, literature and case studies that were referred to in this paper is taken from authentic sources and are indexed in refereed journals.

At the time of data collection, affective filters such as, appropriate keywords and sequential are implemented for capturing the filtered data which comprises all the topic as widely as feasible, that can be incorporated in the paper for better literature review. The motive was to accumulate and scrutinise as many data as possible which will contribute to the research and also enhance the understanding regarding the concerned domain.

For drafting this paper, all the abstracts, their proceedings, case studies and final consideration of the filtered literature were read thoroughly and then documented according to the construct and different sections of the paper so that it delivers the most pertinent information and can readily deliver the main idea.



GAMIFICATION AND PEDAGOGY

Gamification is a very new term that has been practiced in various educational settings for a few years back, that is why due to the comparatively little time period, one cannot find any comprehensive research which was done in this field. Nevertheless, the volume of research is increasing in plenty of ways. Various studies have been executed that investigate multiple pieces of literature linked with a specific field for achieving sufficient comprehension of all the researches that have been conducted until now. Hamari, Koivisto, and Sarsa (2014) Carried research and ascertain that information concerning various gamification modules that can be exercised in educational settings for a better comprehension of the foreign language is no dearth. The only thing where our curriculum lacks is the interest of the learners and instructors for adopting a new method of teaching.

Randel, Morris, Wetzel and Whitehill (1992) found that when utilized accurately, games could be considerably victorious in terms of the learning outcomes in the proper classroom settings in addition to that they typically enhance the motivation of the learners many times more than employing normal instruction by dissecting various games in the diverse educational setting. Based on various games' influence on the learners, they stated that "games/simulations are more interesting than traditional classroom instruction is both a basis for using them as well as a consistent finding" (p. 270).

Gamification is one of the pedagogical methodologies which explores all reasonable approaches where it can easily be blended, in this approach, some components from a particular game are taken and employed in other settings. Deterding, Dixon, Khaled, and Nacke said that (2011) gamification is "the use of game design elements in non-game contexts" (p. 11). Sheldon (2012) suggested an alike definition, where he affirmed that "gamification is the application of game mechanics to non-game activities" (p. 75).

For further clarification about what gamifications consists and the components of gamification module, Deterding et al. (2011) ascertained five levels of where any game are divided. These are the fundamental components that should be incorporated for distinct and comprehensive definition of gamification. These levels include:

1. Design patterns for the games interface
2. Gaming mechanics
3. Principles and heuristics
4. Models for the games, and
5. Methods use for devising perfect game design

All these distinct foundational levels hold a variety of various gaming elements like badges, leaderboards, time constraints etc. these are the elements that can usually be observed in various

games irrespective of the approach and platforms they are working on.

There is an area that has some sort of overlapping from the game based pedagogical module which is termed as Game-based learning. All, Nuñez Castellar, and Van Looy (2016) precisely refined the methodology of game-based learning and highlight several noteworthy perspectives of the process. One of the most significant points in this methodology is that while exercising game-based learning in the classroom setting the game will be the primary means, through which all the learning takes place. In game-based learning, essentially two types of games are used:

1. When the game has been specifically designed for a pedagogical intent,
2. When games are primarily developed for some other purpose like mainly for entertainment purposes later adapted and practiced in an educational setting.

After an extensive study and interpretive analysis on learners, De Sousa Borges, Durelli, Reis, and Isotani (2014) reviewed various researches and have done an extensive study on how to apply gamification in various educational settings, they came across a fact that Engagement was a significant objective. Supporting their view in 2011 Lee and Hammer (said that "Gamification can motivate students to engage in the classroom, give teachers better tools to guide and reward students, and get students to bring their full selves to the pursuit of learning" (p. 1). They expanded their research and later asserted that by employing various required and apt gamification techniques in emotional, cognitive, and social areas, motivating learners became very apparent which facilitates their learning.

The usage aspect of the gamification module is endless it can be employed in numerous ways in pedagogical scenarios, this nature sometimes results in some confusions also, that where to apply and what techniques should be followed for making learning a better experience for all. As gamification is an entirely new field so it is unclear that which aspects should be included in this approach.

Landers (2014) proposed a framework for employing gamification in learning scenarios. He framed a whole new perspective for the gamification, he anchored his locus on changing the attitude and behaviours of learners instead of focusing on the particular elements which can be taught through the gamification. He believed that various gaming elements of gamification modules can benefit both learners' motivation as well as makes the instructions more engaging.

This proposed framework assists in proffering the direction to the instructors while ascertaining how gamification should be applied in the classroom scenarios. Moreover, the proposed theory is not just about enjoyment from the games, but it is more about learners' attitudes and behaviour. As Landers (2014)



stated: "For gamification to be successful, it must successfully alter an intermediary learning behaviour or learner attitude. That behaviour or attitude must then itself cause changes in learning directly (as a mediating process), or it must strengthen the effectiveness of existing instructional content (as a moderating process)". (p. 765)

MOTIVATION BOOSTER

Through strait-laced gamification modules, learners' behaviour can easily be influenced by instructors which not only help them in attaining present course but also aid in increasing future learning goals. In the modern pedagogical approach, gamification has been exercised in numerous fields yielding various results. Nevin et al. (2014) conducted research on medical graduates and found gamification has positive motivational effects on their learnings. During research on the students of computer science Untch, Li, Dong and Chasteen (2013) observed that gamification has a positive effect on the learning outcomes as it boosts the motivation of the learners. A slight change in their regular pedagogical approach i.e., the addition of gamification in their curriculum, researchers observe that gamified groups participated in online group discussions more than the one who did not receive any modification in their curriculum. Bellotti, Berta, de Gloria, and Lavagnino (2013) practiced gamification as the pedagogical approach for the engineering students to enhance their motivation. Cheong, and Filippou (2013) implemented principles of gamification for the undergraduate IT students and observed that their motivation level increases dramatically. Han (2015) practiced gamification to enhance the Arts students' motivation.

This influence on motivation is constantly associated with different researches on gamification, it might persuade different learners in different manners, contingent upon the setting in which gamification is utilized. Hamari et al. (2014) carried an analysis that was done on several studies based on gamification, some of them comprised studies that employed gamification in the educational settings. They find that the motivation factor of the learners was undeviatingly reliant on the context.

Learners discovered that gamified learning is very enjoyable as it makes learning a fun activity for them. It assists and stimulates them throughout the learning process. Koshino, Hasegawa and Ban (2015) practiced gamification while developing while they were working on a mobile application development and according to them, "A smartphone is effective for independent learning such as English vocabulary memorization because a learner can use the smartphone anytime and anywhere when the learner has only little time" (p. 1). For developing their application and making them engaging for their users they worked hard on their gamified application and

tried their level best to incorporate various gamifying factors like growth of the character, ranking, time trials, various social network connectivity.

METHODS THROUGH WHICH GAMIFICATION CAN PRACTICED

The most well-known and productive way through which gamification can be interjected in the learning curriculum is through the introduction of leaderboards and badges. Ostashevski, Gibson, Grant, Flintoff and Knight (2015) presented an overview that how learners, as well as instructors, can easily be benefited by using badges. They asserted that "Digital badges seem to have important impacts on motivation for learning, status within a community, and can transparently display achievement level" (p. 409). After them, many researchers have done their analysis to find that whether the use of badges yields a positive outcome or not and found that these badges supported both learners as well as instructors. Denny (2013) endeavoured to circumscribe the outcomes of badges and accomplishments on students by employing an eLearning platform and surprised to ascertain the effectiveness of badges on the learners' motivation. Deterding et al. (2011) incorporated the badges in the core framework of gamification under the interface patterns of designs.

Landers and Landers (2014) used the proposed theory of "gamified learning" by including leaderboards in the study framework of an online university. He stated that "Leaderboards represent a combination of three of the nine game attribute categories" (p. 772). It is an effective way of ranking the learners and conferring them with daily challenges having unquestionably defined goals and rules. The researcher formulated research by using a Leaderboard in it, During the research, learners were asked to perform a task. The researcher found that the addition of a leaderboard enhances the learners' performance dramatically. They performed much better and complete their task before time and enhances their competence level.

As games are having a long-lasting impression on learners' mind and consciousness, furthermore, also intensifies their learning and heightens their motivation, so one cannot back out while utilizing various available games as an aid which act as a catalyst in second language learning and also makes classroom teaching interesting and engaging to enhance the language learning process. Additionally, employing games in language classrooms will be expressly effective, especially when employed amidst properly specified goals. Various new phenomena are prefacing day by day in the sphere of pedagogical processes.



CONCLUSION

This paper has review of various available literature on the employability of gamification in pedagogical scenarios and also identified various gamified learning strategies used for successfully teaching in classroom scenarios. It also highlighted that the selection of games remarkably depends on purpose to purpose and can be modified according to the demand of the situation and suggest that what sort of aid learners required for better learning and which perspectives of games and multiple gaming elements are employed for expediting better learning. It explicates that Game-based learning encourages a whole new learning experience and also engages learners as well as instructors by providing a medium through which effective learning can easily take place.

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